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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/624,671 | 07/23/2003 | Michiei Nakamura | 240706US0 | 6689 |
| 22850 | 7590 | 09/04/2007 | EXAMINER | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. | | | | CHU, HELEN OK |
| 1940 DUKE STREET | | | | ART UNIT |
| ALEXANDRIA, VA 22314 | | | | PAPER NUMBER |
| | | | | 1745 |
| NOTIFICATION DATE | | DELIVERY MODE | | |
| 09/04/2007 | | ELECTRONIC | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | |
|---|-----------------|-----------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/624,671 | NAKAMURA ET AL. |
| Period for Reply | Examiner | Art Unit |
| | Helen O. Chu | 1745 |
| <i>-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --</i> | | |
| A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. | | |
| <ul style="list-style-type: none"> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). | | |
| Status | | |
| 1) <input checked="" type="checkbox"/> Responsive to communication(s) filed on <u>05 June 2007</u> . | | |
| 2a) <input type="checkbox"/> This action is FINAL. 2b) <input checked="" type="checkbox"/> This action is non-final. | | |
| 3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213. | | |
| Disposition of Claims | | |
| 4) <input checked="" type="checkbox"/> Claim(s) <u>1,3-5,8-15,22 and 23</u> is/are pending in the application. | | |
| 4a) Of the above claim(s) _____ is/are withdrawn from consideration. | | |
| 5) <input type="checkbox"/> Claim(s) _____ is/are allowed. | | |
| 6) <input checked="" type="checkbox"/> Claim(s) <u>1,3-5,8-15,22,23</u> is/are rejected. | | |
| 7) <input type="checkbox"/> Claim(s) _____ is/are objected to. | | |
| 8) <input type="checkbox"/> Claim(s) _____ are subject to restriction and/or election requirement. | | |
| Application Papers | | |
| 9) <input type="checkbox"/> The specification is objected to by the Examiner. | | |
| 10) <input type="checkbox"/> The drawing(s) filed on _____ is/are: a) <input type="checkbox"/> accepted or b) <input type="checkbox"/> objected to by the Examiner. | | |
| Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). | | |
| Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). | | |
| 11) <input type="checkbox"/> The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152. | | |
| Priority under 35 U.S.C. § 119 | | |
| 12) <input type="checkbox"/> Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). | | |
| a) <input type="checkbox"/> All b) <input type="checkbox"/> Some * c) <input type="checkbox"/> None of: | | |
| 1. <input type="checkbox"/> Certified copies of the priority documents have been received. | | |
| 2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____. | | |
| 3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). | | |
| * See the attached detailed Office action for a list of the certified copies not received. | | |
| Attachment(s) | | |
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | | |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | | |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | | |
| 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date _____ | | |
| 5) <input type="checkbox"/> Notice of Informal Patent Application | | |
| 6) <input type="checkbox"/> Other: _____ | | |

DETAILED ACTION

1. Applicant's Amendments were received on June 5, 2007. Claims 1 and 3 are amended. Claims 2, 24-26 are cancelled.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 5, 2007 has been entered.

Claim Rejections - 35 USC § 112

4. The rejections under 35 U.S.C 112, first paragraph on claims 24-26 are withdrawn because Applicants have amended the claims.
5. Claims 1, 3-5, 8-15, 22, 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose

to one of ordinary skill at the time the invention was made to that Y is CO•O in Formula (2).

6. Claims 1, 3-5, 8-15, 22, 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose to one of ordinary skill at the time the invention was made to that Y is CO•O in Formula (3).

7. Claims 1, 3-5, 8-15, 22, 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Formula 6, in original claim 7, on July 23, 2003 relates to oligomer component (B) which the Applicants differentiate between components (A) and (B) in original claim 1. Therefore, there is no support for a component (A) having Formula 1 where Y is CO•O. Furthermore, the Applicants have cancelled component (B) in Remarks/Arguments dated December 18, 2006, Page 1, second paragraph.

8. Claims depending from claims rejected under 35 U.S.C 112, first paragraph are also rejected for the same.

9. To the extent the claims are understood in view of 35 U.S.C 112 rejections above, note the following prior art rejections.

Claim Rejections - 35 USC § 103

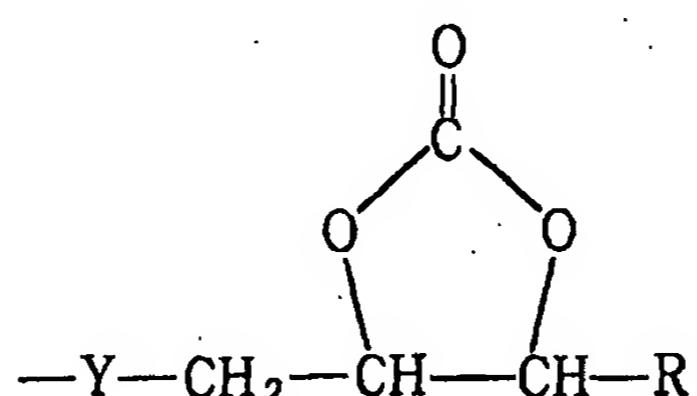
10. The rejections under 35 U.S.C 103(a), as unpatentable over unpatentable over Yoshida in view of Figovsky, on claims 1-5, 8-15, 22-26 are withdrawn because Applicants have amended the claims.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1, 3-5, 8-15, 22, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (US Patent 6,949,317) in view of Figovsky (US Patent 6,120,905).

In regards to claims 1, 3, 4, 11, 12, 14, 15, the Yoshida reference teaches a polymer gel (wet) electrolyte includes an electrolyte solution (Abstract) composed of a polyurethane network (Column 9, Lines 60-65), however, does not disclose that the polyurethane compose a (co)polymer made of a component with the following formula:



The Figovsky discloses a polyurethane network made with a (co)polymer of formula (1) where R is a hydrogen atom and Y is a carbon backbone or a polyalkyl oxide (Column 5 and 6; Structure I, II). The Figovsky reference further discloses the polyurethane gives better mechanical performance (Column 2, Lines 40-47). Therefore, it would have been obvious to one of ordinary skill to incorporate the polyurethane with structures I and II as disclosed by Figovsky to the Yoshida secondary battery that requires a polyurethane for relative elongated life of the battery. Furthermore, the Yoshida et al. reference discloses polyurethanes that have a molecular weight to be 1,000-50,000. It is the Examiner's position that the amounts in question are so close that it is *prima facie* obvious that one skilled in the art would have expected them to have the same properties *Titanium Metals Corp. v. Banner*, 227 USPQ 773.

In regards to claims 5, 22, 23, the Figovsky reference discloses the polyurethane network polymer has non-cross-linked portions and cross-linked portions (Column 16, Lines 30-39).

In regards to claims 8, 9 and 10, the Yoshida et al. reference teaches electrolyte ammonium salts (e.g. lithium perchlorate) (Column 7, Lines 51-56) in a methyl ethyl carbonate solvent (Column 9, Line 11).

In regards to claim 13, the Yoshida et al. reference discloses the electrolyte being retained on a separator made of nonwoven fabrics (Column 30, Lines 1-12)

In regards to claims 24-25, the Yoshida et al. reference discloses polyurethanes have a molecular weight to be 1,000-50,000. It is the Examiner's position that the amounts in question are so close that it is *prima facie* obvious that one skilled in the art would have expected them to have the same properties *Titanium Metals Corp. v. Banner*, 227 USPQ 773

It is noted that claims 1, 3-5 are product-by-process claims. Absent a showing to the contrary, it is the examiner's position that the article of the applied prior art is identical to the claimed article. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). Since, the final product structure of Yoshida et al. in view of Figovsky is the same of the Applicant's, Applicant's process is not given patentable weight in this claim.

Response to Arguments

Applicant's arguments filed June 5, 2007 have been fully considered but they are not persuasive.

Applicant's principle arguments are:

A) As recognized in the Office Action, Yoshida does not disclose a copolymer comprising at least one cyclocarbonate group represented by presently claimed formula (1). To cure this deficiency, Figovsky is cited. However, in Figovsky "Y" as used herein is a carbon backbone or a polyalkyloxide. See Columns 5 and 6 of the reference and page 4, top, of the Office Action. As both Yoshida and Figovsky fail to disclose or suggest polymer component (A) as presently claimed.

In response to Applicant's arguments, please consider the following.

A) The only limitations for component (A) as claimed are having a molecular weight of 10,000 to 5,000,000 and a (co)polymer comprising at least one cyclocarbonate group represented by formula (1). (Co)polymer (A-2) is optional because the Applicants used the recitation "/or." Also, the recitation "obtained by reacting a carbon dioxide with a (co)polymer represented by formula 2" is product-by-process where the determination of patentability is based on the product itself. The component (A) with a (co)polymer comprising at least one cyclocarbonate group is of formula (1) is disclosed by Figovsky.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen O. Chu whose telephone number is (571) 272-5162. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HOC


TRACY DOVE
PRIMARY EXAMINER
8/07